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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/016,987

12/13/2001

Peter A. Thayer

79-01-006 (014208.1457)

4967

35005

7590

06/05/2006

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EXAMINER

TAYLOR, BARRY W

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/016,987

Applicant(s)

THAYER ET AL

Examiner

Barry W. Taylor

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/16/03</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1, 6-8, 11, 15-18, 21, 23-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niehoff et al (6,763,253 hereafter Niehoff) in view of Suzuki (20020077072).

Regarding claims 1, 11, 21, 26 and 31. Niehoff teaches a system and method for sending high fidelity sound between wireless units (abstract) comprising:

an audio interface operable to receive sounds and generate signals that represent audible sounds (see audio input 2 in figure 1);

coding module operable to encode the audible sounds (figure 1, col. 2 line 4 – col. 4 line 48, col. 4 line 61 – col. 5 line 15);

a wireless module operable to transmit the encoded audio over channels selected by selector (item 62 figure 1).

Niehoff does not explicitly show encoding at a rate greater than eight kilohertz.

Suzuki also teaches a radio transmitter and receiver for a Bluetooth system (title, abstract) wherein three SCO links are used whereby frequencies greater than eight kilohertz are used (abstract, figures 1-5, paragraphs 0011, 0030 – 0038, 0040 – 0045, 0050, 0053 – 0054) so as to improve tonal characteristics of wireless units speakers (paragraph 0012).

It would have been obvious for any one of ordinary skill in the art at the time of invention to utilize the teachings of Suzuki into the teachings of Niehoff in order to improve audio quality of speakers because frequencies from 0 to 4 kHz cannot provide sufficient audio quality at all times.

Regarding claims 6 and 15. Suzuki teaches G.711 (see encoding standard --- paragraph 0031).

Regarding claims 7 and 16-17. Suzuki teaches high fidelity sound transmitted by using three SCO links (abstract, figures 1-5, paragraphs 0011, 0030 – 0038, 0040 – 0045, 0050, 0053 – 0054) so as to improve tonal characteristics of wireless units speakers (paragraph 0012).

Regarding claims 8, 18 and 25. Suzuki teaches three SCO links used (abstract, paragraphs 0040-0045, 0050, 0053 –0054, 0067 – 0072).

Regarding claims 23-24 and 27-28. Niehoff further teaches coding module operable to encode the audible sounds (figure 1, col. 2 line 4 – col. 4 line 48, col. 4 line 61 – col. 5 line 15) and a wireless module operable to transmit the encoded audio over channels selected by selector (item 62 figure 1).

2. Claims 2-3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niehoff et al (6,763,253 hereafter Niehoff) in view of Suzuki (20020077072) and Eastmond (4,378,603).

Regarding claims 2-3 and 12. Niehoff in view of Suzuki fail to show microphone with delay.

Eastmond teaches that by using delays with microphones allows for automatic selecting of transmit or receive mode (col. 1 lines 5-45, col. 1 line 62 – col. 2 lines 30, col. 3 lines 36-41, col. 6 line 46 – col. 7 line 16), as well as, preventing break-in by the other party.

It would have been obvious for any one of ordinary skill in the art at the time of invention to utilize the teachings of Eastmond into the teachings of Niehoff in view of Suzuki in order to automatic switch between TX and RX mode.

3. Claims 4-5, 9-10, 13-14, 19-20, 22 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niehoff et al (6,763,253 hereafter Niehoff) in view of Suzuki (20020077072) and Green (2003/0098806).

Regarding claims 4-5, 9-10, 13-14, 19-20, 22 and 29-30. Niehoff in view of Suzuki fail to teach using out-of-phase signals.

Green teaches that interference may be reduced by using out-of-phase signals (title, abstract, item 110 figure, paragraphs 0008, 0010, 0014 – 0016).

It would have been obvious for any one of ordinary skill in the art at the time of invention to utilize the teachings of Green into the teachings of Niehoff and Suzuki in order to reduce inference when two or more wireless units are operating next to one another.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Thursday, 6:30am to 5pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost, can be reached at (571) 272-7872. The central facsimile phone number for this group is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Centralized Delivery Policy:** For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number (**571-273-8300**).

Barry W. Taylor  
Art Unit 2617

  
**BARRY TAYLOR**  
**PRIMARY EXAMINER**